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ABSTRACT

Public concern about substance abuse, fueled by political and media attention, is causing school administrators to consider a variety of approaches beyond traditional drug education. No procedures, methods, or rules regarding drug testing should be established in the absence of clear school board policy, and no policy decisions should be made before the ethical, legal, practical, and financial issues are carefully considered. Among the legal considerations are the constitutional rights of students and employees, particularly the right to freedom from unreasonable search and seizure and to due process and equal protection of the law. Practical issues include the significant number of safeguards required to ensure the accuracy and reliability of drug testing and related record keeping. Although there are several kinds of tests available, the most commonly preferred method is also the most expensive and complex. None of the available tests serves as more than an indicator of possible substance abuse, and no single test covers all possible situations, conditions, or materials. When considering adoption of drug screening policy, school board members should consider whether the procedures will protect personal rights, what use will be made of test results, and whether the resulting benefit is worth the costs and the risk of litigation. (PGD)

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Substance abuse and its consequences are considered in many communities to be the number one problem facing educators today. While alcohol and teen drinking continue to be the *real* number one drug problem, public attention has shifted to popular illicit drugs such as marijuana, stimulants, and cocaine, especially in the form of "crack."

The continuing increase in the use of these drugs is reported by the National Institute of Drug Abuse (NIDA). According to NIDA data reported by L. S. Wright in "High school polydrug users and abusers (*Adolescence*, Winter, 1985), marijuana and stimulants remain the most popular illicit drug. Cocaine is right behind, however. And, as reported in *Education Week* (Oct. 1, 1986), NIDA data from 1975 to 1985 show slightly fewer students using marijuana, but a steady rise in the use of cocaine.

Public concern about substance abuse, fueled by political and media attention, is causing school administrators to consider a variety of approaches beyond traditional drug education. Among the drug testing approaches being endorsed by public officials to determine if certain drugs have been used by employees and students is urinalysis.

The issue is complex. Consider the following: implications for policy; legal parameters within which school authorities may act; administrative practice and protocol; and test reliability and accuracy.

Policy implications

The implications for school policy are central to any discussion of drug testing, whether for students or employees, because of the primary function of school policy.

As defined by S.J. Knezevich in *Administration of Public Education* (Harper & Row, 1984), policy is a "general and goal-oriented statement of intent to act, or behave, in a particular manner when confronted with a given situation . . . . " Policy exists to ensure fairness and consistency in dealing with situations. From policy flow rules and regulations, writes Knezevich.

No procedures, methods, or rules regarding drug testing should be considered in the absence of clear school board policy; the results likely would be unfair and inconsistent administration, misuse, and litigation. Regretably, however, some efforts to move toward drug testing programs are underway in schools without the direction of school board policy.

Some school boards also may be making policy decisions before examining the myriad of sensitive ethical, legal, and constitutional issues involved as well as the practicality of formal testing procedures and protocols, questions of finance, and the nature of the tests themselves. An examination of each of these areas should precede the development and adoption of policy.

Basic legal considerations

School officials should not assume that public pressure to deal with drug problems is legal justification for any action they choose to take. (See Court View, p.4.) Administrators who fail to take notice of the rights of students and employees do so at their own peril. They may pay for their mistakes in heavy currency, both monetary and in terms of loss of public trust.

Analysis of legal principles that shape drug testing policy begins with the U.S. Constitution, particularly the Fourth and Fourteenth Amendments. The Fourth Amendment guarantees a citizen's right to freedom from unreasonable searches and seizures. Citizens' rights were bolstered by the post-Civil War adoption of the Fourteenth Amendment which provides for due process and equal protection of laws.

To ensure rights under these amendments, which are considered the "golden thread" of the concept that persons are innocent until proven guilty, the courts eventually adopted the exclusionary rule. Simply stated, the exclusionary rule holds that evidence that is the direct or indirect product of an illegal or improper search is inadmissable in court.

Reasonable suspicion

Rules governing searches by school administrators are not always clear cut. Generally, searches of students and their belongings require that there be *reasonable suspicion*, which requires a less rigorous basis of facts than *probable cause*, the condition necessary for a search by police.

Administrators should be warned that reasonable suspicion must meet the test of "reasonableness" as applied by non-educator officers of the court. For example, using dogs to sniff for drugs on students' and teachers' persons has been disallowed as a random and degrading search. It follows that neither random searches nor random drug tests meet the test of reasonable suspicion and are, therefore, unacceptable.

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Since drug use by school employees may be involved in personnel decisions by school administrators, extra care must be taken to protect employees' rights. In *Jones* v. *McKenzie* (1986), a federal district court held that a urine test constituted a search, thus requiring Fourth and Fourteenth Amendment safeguards. The court also found that the EMIT test (for analysis of urine samples) alone was not sufficient to establish the presence of drugs.

The court held that public employees with property rights to a job were entitled to full procedural due process prior to dismissal. Given the fact that Jones, a school bus aide, had both positive and negative drug test results and that she was denied a hearing prior to dismissal, the court held that her rights had been violated.

It appears clear that drug testing poses a formidable array of legal problems and questions that must be considered carefully before policy is adopted. It also is important to note that possession, sale, and/or distribution of controlled substances is illegal; there is no law, however, forbidding the use of these substances.

Technical issues

Urine drug screens, if done correctly, are reliable and accurate. There are aspects, however, which can make the results of such tests either meaningless or erroneous. Problematic areas common to all available testing procedures should be examined.

The major objective of drug screens is that they be traceable to the individual being tested and that the results be reproducible. Relating a sample to the individual is done by creating what is known as a "chain of custody" for each sample, which is accomplished by following a detailed procedure.

The standard procedure starts with the creation of the sample and ends with the report of the analytical results. It includes all activities related to the handling of the sample.

To be certain that the sample belongs to the individual being tested *and* has not been diluted or otherwise tampered, the sample should be collected under the direct supervision of a responsible person. This person also should be responsible for identifying and sealing the container so that no confusion or cross-contamination of samples is possible. Without strict adherence to this step, all test samples become questionable and the results have little meaning.

Proper preparation of samples involves obtaining the sample, packaging it (including dividing the sample into two portions if the analytical procedure so requires), proper sealing and labeling of each sample, and any initial analytical procedures required by the analysis.

This last step is done by the testing agency. It is important for the requesting agency—the school system, for example—to confirm that the testing laboratory has quality controls that eliminate the possibilities for cross-contamination, mislabeling of samples, use of bad reagents or poorly maintained instruments, and the use of improper testing procedures.

When these requirements are met, the next hurdle in obtaining a meaningful result is the analysis. Two important concepts to consider are precision and accuracy.

Precision refers to the reliability of the test. If similar results can be obtained with different portions of a sample, the test method is considered to be precise. The closer the results, the higher the precision.

Accuracy is a measure of how closely the test results mirror reality. Accuracy also can be defined as how well the sample is described with respect to what actually is in that sample. The occurence of cross-contamination or sample mixup will destroy the accuracy of a test. Confirmation of the screening test is recommended strongly.

Confirm results

Cross-testing, the running of more than one analytical procedure, is the method used to confirm a test result. Some laboratories use a second sample of the same specimen and run the same test. This is the weakest confirmation test, however, especially if the same equipment is used; cross-contamination, such as the use of a contaminated pipette or syringe, may not be detected. Cross-reativity, the ability of two different compounds to give rise to reactions with the same reagents, also will not be detected by this means.

Differences in sensitivity exist in different test methods. Knowing which are more sensitive is important. If a more sensitive screening process produces a negative result from a sample that was found positive with a less sensitive confirmatory test, the result should be reported as negative. A false positive result may be due to cross-contamination or cross-reativity. False negative results can be due to the masking of a reaction by a competing reaction and sensitivity limitations.

Poor techniques or instrument problems can produce false positives *or* false negatives. A false positive test indicates the presence of something not really there, while a false negative test indicates the absence of what actually is present. Usually, however, a sample giving a negative drug screen is not subjected to further testing. False negatives, therefore, will not be detected.

Types of drug screens

Analytical procedures used in drug screens range from inexpensive, throw-away kits to complex, automated systems. Unfortunately, the method of choice for confirmation is the most expensive and complex technique: gas chromatography-mass spectroscopy (GCMS).

GCMS requires a highly trained technician to use and interpret the findings, which are considered specific means of identification, properly. Unlike other test methods, GCMS identifies the specific compounds present. The problem of sensitivity limits arises with GCMS, however.

Some other tests will give a positive result for several different drug metabolites (those compounds arising from the breaking down of the ingested drug by the body) which become detectable

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when added together but, individually, are undetectable. GCMS, which measures each metabolite separately, may be unable to detect any.

Many other chromatographic tests are available for drug screening. Relatively inexpensive and easy to interpret, they are similar to GCMS because they separate and measure individual components. Unlike GCMS, however, they are not specific; the identity of what is measured is uncertain. In some instances, chromatographic tests are used as a confirmation test due to their high sensitivity.

The most common screening tests now in use are the enzymatic tests. RIA, radioimmunoassay, is the most expensive of these on the market. RIA uses radioactively tagged reagents that require special waste and handling procedures. It also requires a separation step to remove the unreacted reagent for measurement; the lower the amount of unreacted reagent, the higher the concentration of drug or metabolite.

EMIT, Enzyme Multiplied Immunoassay Technique, does not require separation. Instead, the enzymes bound to the drug or metabolite are measured. The higher the concentration of bound reagent, the higher the concentration of drug or metabolite.

Both RIA and EMIT reagents are purchased in kits that simplify usage by technicians. These tests should be confirmed by other methods, however, due to the possibility of cross-reactivity. Also, while RIA and EMIT are extremely sensitive, they are not specific for drugs.

Using results

Policy makers should understand that a confirmed positive test is only *indicative* of the possible use of controlled substances. Many over-the-counter preparations, for example, contain compounds that will give rise to false positives. Some imported poppy seeds that have not been washed adequately may contain morphine; if ingested on a roll or in a pastry, a positive opiate test will result according to a report by the Syva Company (1986), the developer and manufacturer of EMIT. Also, research published in the *Journal of Forensic Science* (Oct., 1985) demonstrated that even the passive ingestion of marijuana smoke is possible under certain circumstances.

In addition, noncontrolled prescription medications may cross-react to give false positives. While confirmatory tests will correct some of these false results, they will not correct those due to the legal use of medication or passive ingestion.

Another consideration when a positive test is obtained is how long following ingestion an illicit drug or its metabolite remains detectable. This question is related both to the toxicology of the drug and the sensitivity of the testing procedures used.

The less sensitive the test, the shorter the duration for detection. This is one reason why some results will not be confirmed. The drug is present, but in too low a concentration for the confirmatory test to detect. (See box for the approximate retention times of various drug groups in the body.)

Also, retention times for individuals are affected by several factors, including the person's health, metabolic rate, and how frequently the drug is used. A strong positive result does not necessarily mean chronic or recent use. Likewise, a weak result may mean a large consumption of a drug, but the use occurred near the limit of the retention time. Also, a weak result could occur if the urine sample is obtained late in the day; first and second voidings have higher concentrations of a drug or its metabolites.

Approximate retention times of drug groups in humans

Amphetamines	48 hours
Barbiturates	
Short Acting	24 hours
Long Acting	2-3 weeks
Benzodiazepines	
Therapeutic Dose	3 days
Extended Dosage	4-6 weeks
Cocaine Metabolites	2-4 days
Ethanol	2-14 hours
Methadone	3 days
Opiates	2 days
PCP	8 days
Cannabinoids	
Moderate (4 times/week)	5 days
Heavy (daily)	10 days
Chronic	20 days

Source: Syva Company

Policy cautions

Drug screening is gaining public awareness and support as a result of political rhetoric and media exposure. Before school leaders succumb to public pressures and initiate such programs, however, they should consider carefully:

- how the procedures will protect the rights of students and employees;
- what use will be made of test results;
- whether the resulting benefit is worth the risk of litigation.

Another consideration is cost. The economics of a drug testing program should be weighed against how funds would otherwise be used. Initial and confirmatory screens can cost as much as $100 or more per specimen for lab work alone. Expenses related to the "chain of custody" protocols will add to the total cost.

Conclusion

Drug screening programs may be initiated if properly conceived. Screening also may produce desirable results in terms of decreased drug use by students or employees, although the major drug problem—alcohol abuse—is not addressed by urinalysis.

Testing will be expensive, and [illegible] will result in litigation. Litigation will be costly in legal fees and, possibly, in settlements. Litigation also may result in increasingly restrictive court interpretations that further limit the discretionary powers of school administrators.

The alternative may be to direct attention and money toward educational initiatives that accurately present the pitfalls of drug usage and the benefits of a drug-free life. Also, wellness and employee assistance programs may be more worthwhile efforts. ■